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AUTHOR Kreppner, Kurt
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ABSTRACT

Early socialization within the family and its differential effects on the development of verbal intelligence skills were the subjects of this longitudinal study. Fifteen families with one child between one and three years old and a second child born at the beginning of the investigation took part in a longitudinal study covering a seven-year period. All families were observed in their homes for a two-year period after the arrival of a second child. When the second children were five and seven years old, intelligence tests were administered to them. Four families whose children obtained verbal IQ (VIQ) scores higher than 125 were contrasted with four families having children with a score under 110. Log-linear analyses of cross-classified frequencies of family socialization characteristics revealed differences in early socialization practices between the two groups of families. The mothers in the low VIQ group exhibited more situation control toward their second children. In contrast, children in the high VIQ group displayed a more independent goal orientation when turning toward their mothers than did children in the low group. The fathers in the high group seemed to participate more in socialization activities than fathers in the low group. Finally, the high group displayed a more balanced course of parental socialization activity over time than did the low group. (BN)

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Patterns of Early Family Socialization and the Development of Verbal Skills: A Longitudinal Approach

Kurt Kreppner

Max Planck Institute for Human Development and Education, Berlin, Germany

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Patterns of early family socialization and the development of verbal skills: A longitudinal approach

Abstract

Early socialization within the family and its differential effects on the development of verbal skills were the subject of a longitudinal study in which correspondence between different socialization patterns during the early years and children's high or low verbal IQ scores at preschool and early school age were investigated.

Fifteen families with one child between one and three years old and a second child born at the beginning of the investigation took part in a longitudinal study covering a seven year period. All families were observed in their homes for a two year period after the arrival of a second child. When the second children were 5 and 7 years old, they were tested for their intelligence. Those families (n=4) with high verbal IQ children (higher than 125) were contrasted with those families having children with a score under 110 (n=4). In this study, single items characterizing the specifics of family socialization during the first two years were analyzed in detail as to differences between the two groups. Log-linear analyses of cross-classified frequencies revealed group differences with regard to mother-child as well as mother-father convergence in socialization practices such as "situation control", "transmission of rules", and "affirmation of position." Furthermore, when mothers were compared as to how they balance socialization activity with emotionality over time, differences in the two groups' mothers were found.

Introduction

The question of how home environment and, more specifically, family context in early childhood might impinge on cognitive development has been posed in a number of longitudinal studies (Beckwith & Cohen, 1984; Beckwith, Cohen, Kopp, & Parmelee, 1976; Bradley & Caldwell, 1976; Elardo, Bradley, & Caldwell, 1975; Gottfried & Gottfied, 1984; Majoribanks, 1972; Sigman & Cohen, 1985; Wachs, 1984; Wachs & Gruen, 1982). Although most of these studies focused on the physical aspects of the children's home environment, such as number of rooms and availability of toys, many claimed to provide information about the children's relevant interaction experiences leading to either higher or lower cognitive abilities. Results of these studies could not be replicated and the concept of continuity between early experience and later cognitive skill was questioned. This led to a model of discontinuity between infancy and later cognitive abilities. However, in an analysis of extant studies, this model of discontinuity was criticized (Bornstein & Sigman, 1986) as being too crude. With more refined measures, a larger degree of continuity could be found in a number of studies (Bornstein, 1984; Lewis & Brooks-Gunn, 1981; Sigman & Cohen, 1985). In attachment research, recent results also support a continuity perspective, as well-attached children proved to do better in school than children who were classified during their first year as being badly attached (Erickson, Sroufe, & Egeland, 1985; Main, Kepler, & Cassidy, 1985; Thompson & Lamb, 1986).

However, most of these studies centered on mother-child relationships and did not include the family as a whole, although clearly the child is growing up not in a single dyadic relationship but in a wider relational network which, in most cases, consists of the members of the nuclear family

including a father and a sibling.

Another aspect of early development that has played an eminent role in a number of empirical studies, the "myth" (Wachs, 1984) that "good" or "bad" global early environmental influences will either enhance or depress cognitive development in all children, has faded away after the failures of respective intervention programs. And albeit Bronfenbrenner (1974) had demanded the inclusion of the whole family in intervention programs and not just the single child or the mother-child dyad, no profound change in conceptualizing research for exploring early influences upon cognitive development occurred. One reason for this gap between theoretically based demands and empirical research lies in the fact that to date no consistent and comprehensive instrument describing interaction and communication in families with small children is available that can be adapted from family research to the needs of developmental psychologists. Although, for example, mothers' as well as children's characteristics and behaviors have been included, in all studies measuring home environment aspects, no consistent measures exist for the more complex patterns depicting interaction among all members of a family over a longer period of time.

The first years of a child's development in the family context cannot be adequately investigated with only a static concept of this relevant proximal environment. Rather it appears more appropriate to include the family's own changes in interaction while dealing with the integration of a new child. Many authors have claimed the necessity of merging individual and family development (Hill, 1981; Hooper & Hooper, 1985; Minuchin, 1985) for a more thorough analysis of the differentiated impact environmental factors might have at specific times, but so far no such research has been

conducted taking the family's as well the child's developmental perspective. Measurement of the family's impact still seems to be restricted to the mothers' personality characteristics or a few mother-infant exchange behaviors such as touch, talk, help, offer toys etc.

Life-span oriented family research has emphasized the period in which spouses become parents and have to care for their small children, the period of transition to parenthood and family expansion which often creates, for example, crises in the marital relationship (LaRossa & LaRossa, 1981; Osofsky & Osofsky, 1984). Longitudinal studies on the integration of children into the extant family relational network including the description of parents' reactions to the arrival of a new child are still lacking.

From a cognitive developmental perspective, the variations in the mode of integration of a new child during the early years could be an interesting issue in the search for relevant predictors of the child's further development.

This study explores differences in children's experiences with the various facets of family socialization during the early years and investigates possible influences that family socialization patterns may have upon later cognitive abilities. The study has been conceptualized as "follow back" research, that is, differences in children's verbal skills in preschool and early school years were taken as a starting point to investigate disparities in the families' socialization practices during the first two years in the children's life. Information about early family socialization practices and their changes was obtained from longitudinal observations over a two year period.

In contrast to studies using global indicators of home environment and

parental care, this investigation's goal is to describe socialization patterns in early childhood as being embedded in the family's relational network and as being subject to differential changes over time. The focus is on the depiction of differences in family socialization formats, for example, mothers' and fathers' time-specific patterns of socialization activities or the degree of cooperation between mothers and fathers when interacting with the child at various periods of the child's development. Moreover, emphasis is laid upon the quality and consistency of mother-child socialization over time.

Method

Fifteen families having a second child born at the beginning of the study were observed and videotaped during a two year period in their everyday interaction in their homes. The families' interaction and socialization activities during the first two years were analyzed according to a scoring procedure covering four domains of family life: Family constellation, family dynamics, family socialization, and family specificity including family theme and emotional climate. (For details of the scoring procedure see Kreppner, 1984). For a proper sampling of families' socialization activities over time, the two years were partitioned into 7 segments, centering around 6/8 weeks, 4/5 months, 8/9 months, 12/13 months, 16/17 months, 20/21 months, and 23/24 months. For each family and each segment, two videotaped half-hour observations of family interaction from different occasions within the segment were taken in order to balance situational effects. Thus, about seven hours of videotaped interaction were available from each family for quantitative analysis.

Family interactions were split into episodes lasting between 20 and 40 seconds. The single episodes were scored according to the four different domains of family interaction and socialization activities. In this study, in the domain of family dynamics the single members' initiatives are included as well as which member of the family is the target of this initiative. Socialization activities inside the family were classified according to items such as structural and pragmatic aspects of controlling or integrating behavior. In addition, the emotional climate of the family's interaction was scored. By applying this procedure, a complex cross-tabulation of the single family members' interaction provided the basis for differentiated analyses of the families' interaction patterns and changes. For example, the mother's initiatives toward the different members of the family could be delineated. Moreover, the kind of socialization activity in an episode could be linked to the respective initiative-target combination. For example, controlling behavior in an episode was specified as to whether mother or father was turning to child2 or child1. The scoring of the video material was done by several independent raters; interrater reliabilities (Cohen's Kappa) for the various dimensions were between .71 and .85 for socialization activities, and between .81 and .95 for dimensions describing family interaction patterns.

When the families' second children were five and seven years old, two different German intelligence tests were administered, the HAWIVA (German version of the WPPSI) at age 5 and the AID (a parallel test of the WISC) at age 7. The verbal intelligence scores from both measurements were taken as indexing those portions of the child's cognitive functioning which might be largely influenced by social experience in the family.

Finally, four families were selected whose second children had a verbal IQ greater than 125 (mean of the two measurements) and were contrasted with four families whose second children had a mean verbal IQ less than 110 (Fig. 1). The two family groups (high VIQ and low VIQ) served as the basis for further analysis of single family socialization items. Frequencies of these different facets of family socialization (e.g., situation control or emotional warmth) were cross tabulated according to the following characteristics: Family group with either high or low verbal IQ children (F), time segments (seven age periods) within the two years (A), and specification of the single family members' initiative-target combinations, indicating who in an episode was initiator (I) and who was target (T). Thus, all socialization items were represented in a multidimensional frequency table and investigated with the method of log-linear models. In this study, only those items were analyzed in more detail which showed a main effect for family differences according to the log-linear model.

Results

After a series of log-linear analyses for all socialization items, a common model with a main effect for family group differences (F, AI, IT) was found for four items (see Tab. 1). The four items were "situation control", "affirmation of position", "instruction and transmission of rules", and "warmth as family climate". The first item describes an intervening and dominating activity of a family member aiming at control or change of another member's actual activity; the second item is an instructing or teaching activity including the transmission of rules concerning social behavior as well as the explanation of objects or events. The third item

depicts a family member's intention to show up in the family as an individual with distinct goals which may be different from all other members' goals. Finally, the fourth item indexes a kind of relaxed, unambiguous, and affectionate emotional climate in an episode.

For the other items representing various aspects of family socialization, no parsimonious models with a term indexing significant group differences could be discovered. Further analyses were conducted only for the four items with the common model F, AI, IT. The F term indicates differences between the two selected family groups of low and high verbal IQ children; the AI and IT terms point to an age-specificity by initiative interaction in all four items as well as an age-unspecific interaction between initiatives and targets.

As single socialization items were scrutinized according to the single parents or children's most eminent overall divergences, it was found that mothers turning to their children in the low verbal IQ group displayed a higher degree of situation control and transmission of rules actives than did mothers in the high verbal IQ group (Figs. 2 and 3. Note: In Figs. 2, 4 and 5 "situation control" is indexed as "social control"). The children from the two groups showed large differences in their affirming of their own position in the family (Fig. 4). No clear-cut differences were seen when mothers' initiatives in combination with the item "warmth" was regarded (Fig. 5). Fathers' socialization activities are low compared to mothers' in both groups; however, an interesting divergence can be noted: High group fathers' "transmission of rules" activities begin about four months earlier (at 16/17 months) than low group fathers'. Differences are even more eminent when the item "situation control" is regarded: Here, at 4/5 months

and at 8/9 months, fathers of high verbal IQ children are exerting control over their children to a far higher degree than fathers in the low verbal IQ group. The temporary decrease during the first half of the second year in the high group fathers can perhaps be interpreted as a sensitive laissez-faire attitude during a phase of intensive exploration in the developing child before the fathers again raise their control level when their children reach a new level of cognitive and social competence at the end of the second year. The low group fathers do not show any of the two socialization activities before the second half of the second year.

In order to more thoroughly explore the differences in family socialization activities during the early years as to what aspects either foster or impede development of cognitive skills, low and high groups were contrasted in different ways. In this study, contrasts between the two family groups were conducted on three different levels: first, socialization cooperation (situation control and transmission of rules) between fathers and mothers (Figs. 2 and 3); second, the interplay between mothers' situation control and the child's affirmation behavior (Fig. 4); and finally the mothers' converging or diverging exhibition of controlling behavior and emotional warmth at different times during the two year period (Fig. 5).

The contrast of mothers' with fathers' controlling and rule transmitting activities toward the second child revealed not only overall divergences with regard to the intensity of this activity in both groups (mothers in low group are higher), but also showed a parity-disparity pattern with regard to socialization activity of mothers and fathers. In the high group, fathers seem to participate more in socialization activities

than do fathers in the low group. Moreover, the high group displays a far more balanced course of fathers' and mothers' socialization activity over time than does the low group. The parity-disparity pattern becomes even more obvious on the second level of contrasts, when the situation control activity of mothers is compared to the children's "affirmation of own position" activity towards their mothers. A kind of well-balanced, harmoniously growing interplay between mothers' and children's activities over the entire two year period is seen in the high group whereas quite the opposite picture is apparent in the low group where the mothers' very high frequencies of controlling activity increasingly diverge from a continuous low level of the children's affirmation activities. A well-tuned mother-child socialization in the high group is contrasted with an increasing mismatch between mothers and children in the low group.

Furthermore, the comparison of high to low group mothers shows another interesting contrast from a more personality-oriented perspective: The contrast of mothers' situation control activities with their display of emotional warmth during the two year period shows conspicuous differences. There are more high group mothers exhibiting warmth during the first months than low group mothers. However, differences disappear during the following months and high group mothers seem to be even lower than low group mothers at the end of the second year. The linking of control and warmth over the entire period reveals an important aspect of probable differences in the mothers' personality: In the low group mothers situation control and emotional warmth over the two year period appear to be more divergent than in the high group mothers.

Discussion

Differences in early socialization practices were found between two groups of families whose children showed divergent levels of verbal skills in preschool and early school years.

To sum up differences between the two groups, the mothers' in the low VIQ group exhibited more situation control toward to their second children. In contrast, children in the high group displayed visibly more affirmation of position activity when turning toward their mothers than did children in the low group. The mutual adaptation processes during the two years are manifested in the high verbal IQ families when the control behavior of mothers is plotted against the second children's position affirmation tendencies. Furthermore, differences are obvious when concurrence in mothers' and fathers' controlling and rule-transmitting socialization activities are compared. A general picture emerges when all four comparisons are viewed in a synopsis: Balance and cooperation between mothers and fathers as they socialize their children, and a growing mutuality between mothers and children over time in the one group; growing discrepancies with regard to both parental cooperation and mother-child socialization, perhaps even a kind of "derailment" of a relationship in the other.

From these four contrasts, it appears as if in one group growing coordination and harmonious interplay between parents in their socialization activity as well as between the main caregiver's (mother) situation control and the child's bargaining for an own position within the family network is the main and overarching characteristic, whereas in the other group growing disparity, mismatch, and perhaps chaotic coordination is characteristic of

the interaction and socialization modes during the two year period in which the child has to be integrated into the extant relationships. Extrapolating from the content of these two socialization scenarios, one could quote the phrase with which the essence of being an underprivileged child had been described: The meaning of deprivation is the deprivation of meaning (Hess & Shipman, 1965).

The mothers' personality is another interesting indicator of divergences and how socialization activity is embedded in the emotional climate of the families. Thus, maternal behavior that is well balanced between control and emotions is apparent in the high group whereas the opposite is true in the low group. Another aspect deserves attention. The timing of control and transmission of rules as well as warmth in the family climate also seems more adequate and adapted to the second child's developmental steps than in the low verbal IQ family group.

This kind of longitudinal observational research, though conducted with only a very small sample of families, may provide new guidelines to attaining a more differentiated knowledge about what really matters in early family socialization for the children's future development. The variations in the family's modalities of establishing relationships with their new children and their ways of integration and socialization have to be considered in more detail and during critical periods of family development. A longitudinal approach and the inclusion of all family members, that is, parents as well as children, may lead to a new basis for looking at mutuality or diversity in specific socialization activities.

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Table 1:

Log-Linear Analysis for Socialization Items

Chi-Squares and Probabilities for Model F, AI, IT

Item	DF	Pearson CHIQ	p
Situation control	294	332	.06
Affirmation of position	294	321	.13
Transmission of rules	294	265	.88
Warmth	294	292	.52

FIGURE 1:

Distibution of mean-verbal-intelligence-scores for second children at age 5 and 7

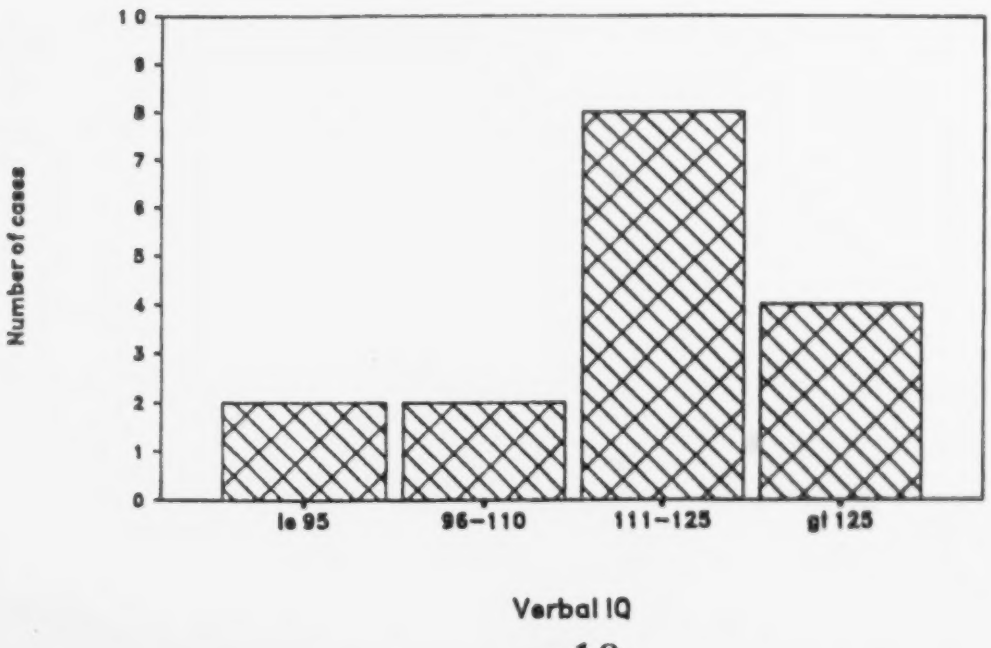

FIGURE 2:

Group Comparison High vs. Low VIQ

Mother to second child: social control
Father to second child: social control

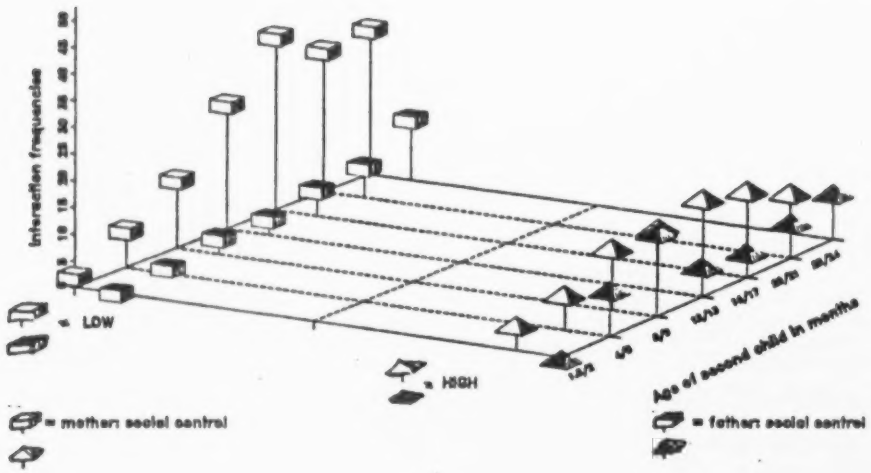

FIGURE 3:

Group Comparison High vs. Low VIQ

Mother to second child: transmission of rules
Father to second child: transmission of rules

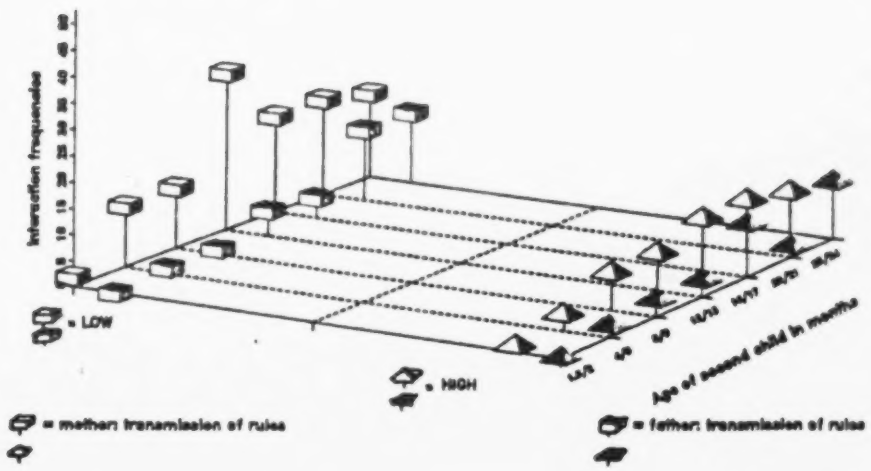

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FIGURE 4:

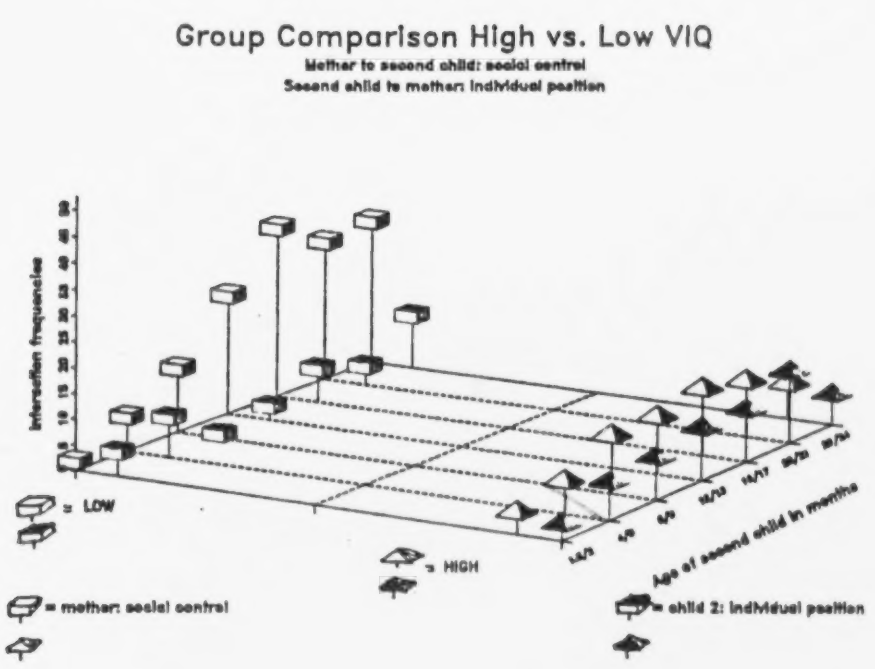
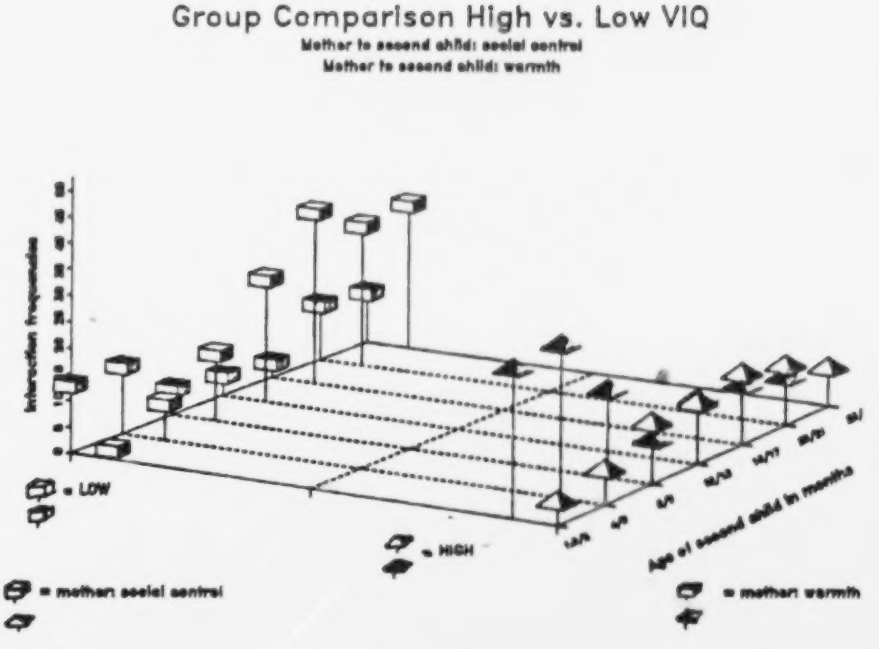

Group Comparison High vs. Low VIQ
Mother to second child: social control
Second child to mother: individual position
interaction frequencies
= LOW
= HIGH
Age of second child in months
= mother: social control
= child 2: individual position

FIGURE 5:


Group Comparison High vs. Low VIQ
Mother to second child: social control
Mother to second child: warmth
interaction frequencies
= LOW
= HIGH
Age of second child in months
= mother: social control
= mother: warmth